



# **Kuwait Aviation Safety Plan (2022-2024)**



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## FOREWORD

State of Kuwait is committed to enhancing aviation safety and to the resourcing of supporting activities. The purpose of this national aviation safety plan (Kuwait Aviation Safety Plan KASP) is to continually reduce fatalities, and the risk of fatalities, through the development and implementation of a national aviation safety strategy. A safe aviation system contributes to the economic development of The State of Kuwait and its industries.

The KASP promotes the effective implementation of The State of Kuwait safety oversight system, a risk-based approach to managing safety, as well as a coordinated approach to collaboration between The State of Kuwait and other States, regions and industry. All stakeholders are encouraged to support and implement the KASP as the strategy for the continuous improvement of aviation safety.

The KASP of The State of Kuwait is in alignment with the ICAO *Global Aviation Safety Plan* (GASP, Doc 10004) and the ICAO Middle East Region (ICAO MID) (RASP).

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## Abbreviation

ACAS	- Airborne Collision Avoidance System
AGA	- Aerodrome and Ground Aids
AIG	- Aircraft Accident and Incident Investigation
AIP	- Aeronautical Information Publication
AIR	- Airworthiness
ANS	- Air Navigation Services
AND	- Air Navigation Department
ARIWS	- Advanced Runway Incursion Warning System
ASD	- Aviation Safety Department
A-SMGCS	- Advanced Surface Movement Guidance and Control Systems.
ATC	- Air Traffic Control
DGCA	- Directorate General of Civil Aviation Kuwait
CAPs	- Corrective Action Plans
CE	- Critical Element
CFIT	- Controlled Flight into Terrain
EFBs	- Electronic Flight Bags
EI	- Effective Implementation
GASP	- Global Aviation Safety Plan
GPS	- Global Positioning System
HLSCC	- High Level Safety Coordination Committee
HRCs	- High Risk Categories
HUD	- Head-Up Displays
ICAO	- International Civil Aviation Organization



KASP	- Kuwait Aviation Safety Plan
LEG	- Legislation
LOC-I	- Loss of Control-in Flight
MAC	- Mid Air Collision
OLF	- Online Framework
OPS	- Operation
ORG	- Organization
PANS	- Procedures for Air Navigation Services
PEL	- Personal Licensing
PQs	- Protocol Questions
RAIOs	- Regional Accident and Incident investigation
RASG	- Regional Aviation Safety Group
RE	- Runway Excursion
RESA	- Runway End Safety Area
RI	- Runway Incursion
RSP	- Runway Safety Program
RST	- Runway Safety Team
SA	- Safety Advisory
SEIs	- Safety Enhancement Initiatives
SMO	- Safety Management Office
SMM	- Safety Management Manual
SMS	- Safety Management System
SOP	- Standard Operating Procedures
SSP	- State Safety Programme



- STCA - Short Term Conflict Alert
- STOL - Short Take Off and Landing
- TAWS - Terrain Awareness Warning System
- VFR - Visual Flight Rules



## Executive Summary

Kuwait Aviation Safety Plan (KASP), 2022 - 2024 has been developed by the Directorate General of Civil Aviation (DGCA) Kuwait after studying the ICAO Global Aviation Safety Plan (GASP), ICAO Doc. 10004, Doc 10131 and ICAO Circular 358.

The purpose of KASP is to continually enhance aviation safety performance by reducing the risk of fatalities, through development of a harmonized aviation safety strategy and its implementation. This edition of KASP incorporates the plans for enhancing aviation safety in Kuwait for a period of three years (2022 - 2024). It includes the goals for DGCA to improve its effective safety oversight capabilities by strengthening the weak elements, CE 1 (Primary aviation legislation, at 62.07%), CE 7 (Surveillance obligations, at 63.16%) and CE 8 (Resolution of safety issues, at 48.78%) as identified by ICAO audits. It aims at improving in the areas of operating regulations (LEG), Aircraft Accident and Incident Investigation (AIG) and Air Navigation Services (ANS) and Aerodromes (AGA) which have been identified as safety deficient areas. It also includes the plan to gain pace in the process of implementation of State Safety Programme (SSP). This plan recognizes the importance of safety risk analysis for the identification of hazards and mitigation of operational safety risks. Its mission is to ensure continuous enhancement of aviation safety by adopting a collaborative approach with all stakeholders. The KASP has the following goals:

- Goal 1** Achieve a continuous reduction of operational safety risk
- Goal 2** Strengthen safety oversight capabilities of Kuwait
- Goal 3** Implement State Safety Programme





- Goal 4** Increase collaboration with Regional Aviation Safety Group in Cairo to enhance safety
- Goal 5** Expand the use of industry programme.
- Goal 6** Allocate resources to ensure the appropriate infrastructure is available to support safe operations
- Goal 7** Establish AIG Office by 2024

To achieve the KASP goals, there is the need for sufficient resources and qualified technical personnel for the effective implementation of the State's Safety Enhancement Initiatives (SEIs). In order to mitigate the risk of fatalities, the High-Risk Categories (HRCs) of occurrences should also be addressed. The selection of types of occurrences which are deemed as HRCs is based on causes of fatal accidents and the number of accidents and incidents as recommended by the ICAO so far. The following HRCs, in the given order and consistent with the GASP, have been included for the 2022 - 2024 edition of the KASP: controlled flight into terrain; loss of control in-flight; mid-air collision; runway incursion and runway excursion. The KASP is believed to present the strategic direction for the management of aviation safety at the national level.

# Introduction

## 1.1 Overview

ICAO Assembly Resolution A39-12 on ICAO global planning for safety and air navigation recognizes the importance of effective implementation of national aviation safety plans. It resolves that States should develop and implement national aviation safety plans, in line with the goals of the GASP. As Kuwait is developing the State Safety Programme (SSP), the SSP will also be linked to this KASP.

Kuwait Aviation Safety Plan (KASP) 2022 - 2024 is a master guiding document for aviation safety management in Kuwait. The KASP incorporates the organizational and operational safety deficiencies and future resolving measures. This plan is developed consistent with the Global Aviation Safety Plan (GASP) 2020-2022.

## 1.2 Authority responsible for development, implementation and monitoring of Plan

Directorate General of Civil Aviation Kuwait (DGCA)/ASD is responsible for development, implementation and monitoring of the plan in line with Global Aviation Safety Plan (GASP) and in collaboration with aviation Industries and other stakeholders.

## 1.3 Relationship between the NASP and the State Safety Programme (SSP):

NASP addresses operational safety risks identified in the ICAO GASP and the MID-RASP in the absence of Kuwait's SSP.

Kuwait is committed to fully implement SSP by 2025 as State's responsibility for the management of safety comprise both safety oversight and safety management, collectively implemented through an SSP.

Initiatives listed in this NASP address organizational challenges and aim to enhance organizational capabilities related to effective safety oversight.

### 1.4 Kuwait safety issues, goals and targets.

As noted from the USOAP audit reports, Kuwait to improve in the following CEs and Safety Areas:

- CE 1 (Legislation)
- CE 7 (Surveillance)
- CE 8 (Resolution of Safety issues)

#### Safety Areas

- LEG (Legislation)
- AGA (Aerodrome and Ground Aids)
- AIG (Aircraft Accident and Incident Investigation)
- ANS (Air Navigation Services)

The USOAP audits conducted in different time periods (2016, 2017-ICVM and OSVA-2021) identified that Critical Element 1 (Primary Legislation), Critical Element 7 (Surveillance) and Critical Element 8 (CE 8, Resolution of Safety issues) and the Aerodrome and Ground Aids (AGA), Aircraft Accident and Incident Investigation (AIG) and Legislation (LEG) areas that needs further improvements. Kuwait Aviation Safety Plan (2022 - 2024)

The overall Effective Implementation (EI) index of Kuwait is above the global benchmark and MID region average rate. The safety oversight margin calculated by ICAO for Kuwait is positive for the functional category of Operation (PEL, OPS and AIR) and the challenging categories are Air Navigation Services and Aerodromes and Ground Aids (ANS and AGA). In the support categories the challenging areas are Legislations and Aircraft Accident and Incident Investigation (LEG and AIG). Most of the Kuwait airline operators have already implemented SMS whereas aerodrome operator and ANSP are in the development phase of implementation to establish the regulator and service providers functions as they are presently part of

DGCA. The DGCA will start the implementing of the SSP in 2023. The KASP has set safety goals related with targets and performance indicators consistent with the GASP 2020-2022.

### 1.5 Operational Context

There is one international airport with multi passenger terminals in Kuwait. The airport is owned by the State of Kuwait. The airport management, air navigation services provision, air traffic control and management are managed by Kuwait DGCA staff. The separation of functions between the regulator and service providers are not clearly defined at times though there is the certification and surveillance processes established. After the ICVM in 2017, the Kuwait Civil Aviation Safety Regulation has gone through a major revision process to harmonize with the European Aviation Safety Agency (EASA) rules especially in Basic Regulations, Personnel Licensing, Air Operations and Airworthiness. The implementation of SMS among service providers has been positively developed and the implementation of SSP is progressively formulated by the Kuwait DGCA.



## Purpose of the KASP, Goals and Values

### 2.1 KASP Purposes

The KASP is a master document containing direction of Kuwait for the management of aviation safety. This plan identified safety deficiencies prevalent in the aviation system and has determined the relevant Safety Enhancement Initiatives (SEIs). The purpose of the KASP is to continually reduce the risk of fatalities by guiding the harmonized development and implementation of regional aviation safety plans through coordinated SEIs.

### 2.2 Goals

It is the purpose of the KASP to adopt the goals of GASP 2020 – 2022 and subsequent updates to incorporate the high-risk categories as below: -

- |               |   |
|---------------|---|
| <b>Goal 1</b> | Achieve a continuous reduction of operational safety risk.  |
| <b>Goal 2</b> | Strengthen safety oversight capabilities of Kuwait  |
| <b>Goal 3</b> | Establish and Implement State Safety Programme SSP  |
| <b>Goal 4</b> | Increase collaboration with RASG to enhance safety  |
| <b>Goal 5</b> | Expand the use of industry programme  |
| <b>Goal 6</b> | Allocate resources to ensure the appropriate infrastructure is available to support safe operations |
| <b>Goal 7</b> | Establish AIG Office.   |



## 2.3 Values

- a) promote a positive safety culture;
- b) encourage collaboration, teamwork and shared learning in the management of safety;
- c) protect safety data and safety information;
- d) promote the sharing and exchange of safety information;
- e) make data-driven decision;
- f) prioritize actions to address operational safety issues through a risk-based approach;
- g) allocate resources to identify and analyse hazards, and address their consequences or outcomes through a risk-based approach; and
- h) proactively manage emerging issues.



## Implementation Strategy

### 3.1 Strategic Approach of KASP

KASP has set seven goals for aviation safety management. Their relative Goals, Targets and Indicators are as follows:

Goals	Target(s)	Indicators	Link to GASP and RASP
<b>Goal 1:</b> Achieve a continuous reduction of operational risk	Maintain a decreasing trend of accident/incident rate	Number of accidents Rate of accident/incident per 100 departures Percentage of occurrences related to high risk categories (HRCs)	This goal is directly linked to Goal 1 and Target 1.1 of the GASP.



Goals	Target(s)	Indicators	Link to GASP and RASP
<p><b>Goal 2:</b></p> <p>Strengthen safety oversight capabilities</p>	<p>Improve the score for effective implementation (EI) of the critical elements (CEs) of the safety oversight system (with focus on priority PQs) to 75% by 2022</p>	<ul style="list-style-type: none"> <li>• Overall EI score of Kuwait.</li> <li>• Percentage of priority PQs implemented in Kuwait.</li> <li>• Percentage of required corrective action plans (CAPs) submitted using the OLF.</li> <li>• Percentage of completed CAPs using the OLF.</li> </ul>	<p>This goal is directly linked to Goal 2 and Target 2.1 of the GASP</p>
<p><b>Goal 3:</b></p> <p>Implement effective State Safety Programme (SSP)</p>	<p>To implement the foundation of an SSP by 2022</p>	<ul style="list-style-type: none"> <li>• Percentage of satisfactory SSP foundational PQs.</li> <li>• Percentage of required CAPs related to SSP foundational PQs submitted using the OLF.</li> <li>• Percentage of required CAPs related to SSP foundational PQs completed using the OLF.</li> </ul>	<p>This goal is directly linked to Goal 3 and Target 3.1 of the GASP</p>





Goals	Target(s)	Indicators	Link to GASP and RASP
	To implement an effective SSP by 2025	Level of maturity achieved in Annex 19 PQs	This goal is directly linked to Goal 3 and Target 3.2 of the GASP
<b>Goal 4:</b>  Increase collaboration with RASG-MID	Contribute information on safety risks, including SSP safety performance indicators (SPIs), to RASG MID by 2022	Safety risks and SSP SPIs presented to the RASG	This goal is directly linked to Goal 4 and Target 4.1 of the GASP
<b>Goal 5:</b>  Expand the use of industry programme	<ul style="list-style-type: none"> <li>All service providers to use globally harmonized SPIs as part of their SMS</li> </ul>	<ul style="list-style-type: none"> <li>Number of service providers using the globally harmonized SPIs.</li> </ul>	This goal is directly linked to Goal 5 and Target 5.1 of the GASP
	<ul style="list-style-type: none"> <li>Increase the number of service providers participating in the corresponding ICAO recognised industry assessment programmes by 2022.</li> </ul>	<ul style="list-style-type: none"> <li>Number of service providers participating in the corresponding ICAO recognised industry assessment programmes.</li> </ul>	This goal is directly linked to Goal 5 and Target 5.2 of the GASP



Goals	Target(s)	Indicators	Link to GASP and RASP
<p><b>Goal 6:</b></p> <p>Ensure the appropriate infrastructure is available to support safe operations</p>	<p>To implement the air navigation and airport core infrastructure</p>	<p>Number of air navigation and airport core infrastructure elements implemented.</p>	<p>This goal is directly linked to Goal 6 and Target 6.1 of the GASP</p>
<p><b>Goal 7:</b></p> <p>Establish AIG Office</p>	<p>To implement the accident and incident office core infrastructure and function</p>	<p>Percentage of satisfactory AIG foundational PQs</p>	<p>This is a local additional Goal</p>



### 3.2 Safety Enhancement Initiatives and actions for Critical Elements

Safety Enhancement Initiatives (SEIs) identified to address the safety deficient critical elements (CE 7 and CE 8) and to improve the EI of CE 3, 4 and CE 5 for achieving the second goal of KASP based on the Global Aviation Safety Plan (GASP) are as follows:

#### SEIs identified to address the safety deficient CEs and Areas

Kuwait SEI- 1	Kuwait SEI- 2	Kuwait SEI- 3	Kuwait SEI- 4	Kuwait SEI- 5
Development of comprehensive regulatory oversight framework.  (GASP, SEI-2)	Establishment of an independent accident and incident investigation authority consistent with Annex 13.  (GASP, SEI-3)	Qualified technical personnel to support effective safety oversight.  (GASP, SEI-5)	Strategic collaboration with key aviation stakeholders to enhance safety in a coordinated manner.  (GASP, SEI-6)	Continued implementation and compliance with ICAO SARPs at the Kuwait national level.  (GASP, SEI-9)

Details of the actions to take for Kuwait SEI-1 to Kuwait SEI-5 in the above table can be found below.

The identified actions associated to Kuwait SEIs in the above are as follows:



## **Kuwait SEI-1. Development of comprehensive regulatory oversight framework, (GASP, SEI -2) – Action items**

Develop an effective system to promulgate technical guidance and tools, and provide safety–critical information needed for technical personnel to perform their safety oversight functions effectively by 2023 (SEI-2B).

Establish an effective system to attract, recruit, train and retain qualified and sufficient technical personnel to support regulatory oversight by 2023 (SEI-2C).

## **Kuwait SEI-2. Establishment of an independent accident and incident investigation authority, consistent with Annex 13 (GASP, SEI-3) – Action items**

Develop an effective system to promulgate technical guidance and tools, and provide safety–critical information needed for technical personnel to perform their safety oversight functions effectively by 2023 (SEI-2B).

Establish an effective system to attract, recruit, train and retain qualified and sufficient technical personnel to support regulatory oversight by 2023 (SEI-2C).

Establish an effective system to attract, recruit, train and retain qualified and sufficient technical personnel to support accident and incident investigations by 2024 (SEI -3C).



### Kuwait SEI-3. Qualified Technical personnel to support effective safety oversight (GASP, SEI-5). – Action items

Ensuring the continuation of an effective system to identify and track qualifications and training for existing technical personnel by (SEI -5A).

Identify the gaps in qualified technical personnel and training requirements necessary to implement the oversight mandate by 2023 (SEI -5B).

Establish a compensation scheme for the attraction and retention of qualified technical personnel by 2023 (SEI- 5C).

Establish human resource plans to support hiring and retention of the appropriate number of qualified technical personnel required by 2023 (SEI-5E).

Make use of RAIOS, or equivalent means to secure qualified technical personnel for performing those functions which cannot be performed by Kuwait on its own. (SEI- 5D).

Implement training policies and programmes for technical personnel and verify that the type and frequency of training successfully completed are sufficient to acquire/maintain the required qualifications and level of competence by 2023 (SEI-5F).

Develop a process for assessing changing needs for qualified technical personnel requirements and develop procedures to update hiring, retention and training of personnel needs, commensurate with organization complexity and resource strength by 2023 (SEI-5G).



## **Kuwait SEI-4. Strategic collaboration with key aviation stakeholders to enhance safety in a coordinated manner (GASP, SEI- 6) – Action items.**

Based on the identified safety deficiencies, establish a mechanism to identify collaborators and develop an action plan for the resolution of those deficiencies by 2022. (SEI-6A).

Establish a process via RASG for a mentoring/collaboration system, including providing State/industry assistance as well as sharing of best practices and internal follow-up actions by 2022. (SEI-6E).

Collaborate with RASG and/or RSOO, other States, ICAO, industry joint programmes and/or technical school partnerships to attract, recruit and train qualified and sufficient technical personnel and develop a strategy for their retention by 2022. (SEI- 6F).

### Kuwait SEI-5. Continued implementation of and compliance with ICAO SARPs at the national level (GASP, SEI-9) – Action items

<p>Implement effective regulatory oversight and enforcement processes by 2022 (SEI- 9B).</p>
<p>Establish a system to resolve safety concerns identified via accident and incident investigations, surveillance activities, safety reports and other means by 2022 (SEI- 9C).</p>

### 3.3 Safety Enhancement Initiatives and Actions for SSP implementation:

Kuwait has planned to implement the following SEIs and actions aligned with GASP for resolution of safety deficiencies identified in the area of SSP implementation to achieve the Goal 3 set in the plan

SSP SEI	SSP Implementation
SSP SEI-1	Start of SSP implementation at the national level (GASP, SEI - 13).
SSP SEI-2	Strategic allocation of resources to start SSP implementation (GASP, SEI-14)
SSP SEI-3	Strategic collaboration with key aviation stakeholders to start SSP implementation (GASP, SEI-15)
SSP SEI-4	Strategic collaboration with key stakeholders to complete SSP implementation (GASP, SEI-16)
SSP SEI-5	Establishment of safety risk management at the national level (Phase 1) (GASP, SEI-17)
SSP SEI-6	Establishment of safety risk management at the national level (phase 2) (GASP, SEI-18).



SSP SEI-7	Acquisition of resources to increase the proactive use of risk modelling capabilities (GASP, SEI-19)
SSP SEI-8	Strategic collaboration with key aviation stakeholders to support the proactive use of risk modelling capabilities (GASP, SEI-20).
SSP SEI-9	Advancement of safety risk management at the national level (GASP, SEI-21).

Details of the actions to take for Kuwait SSP SEI-1 to SEI-9 in the above table can be found below.

Identified actions associated with the SSP SEIs are as follows:

### SSP SEI-1. Start of SSP implementation in Kuwait (SEI -13) – Action items

Conduct initial SSP gap analysis (checklist) then complete the detailed SSP self-assessment by end of 2022 (SEI-13B.)
Develop an implementation plan for the SSP by June 2022(SEI-13D).
Issue SMS regulations for service providers and verify SMS implementation through SMS audit by end of 2023(SEI-13E).
Identify and share safety management best practices (SEI-13F).





## SSP SEI-2. Strategic allocation of resources to start SSP implementation (GASP, SEI-14) – Action items

Establish a process for planning and allocation of resources to enable SSP implementation and identify areas where resources are needed (SEI-14A)
Obtain resources from national and appropriate authorities' leadership and stakeholders within the State to support SSP implementation (SEI-14B).
Work with the ICAO Regional Office to make use of available means (e.g. Technical cooperation Bureau) to acquire assistance needed for SSP implementation (SEI14C).
Work with other States and other organizations, as appropriate to train qualified technical personnel to fulfil their duties and responsibilities regarding SSP implementation (SEI-14D).

## SSP SEI-3. Strategic collaboration with key aviation stakeholders to start SSP implementation (GASP, SEI-15) – Action items

Identify areas where collaboration/support is needed as part of the SSP implementation plan (SEI-15A).
Identify relevant collaborators from the key aviation stakeholders, including other States that are implementing or have implemented an SSP (SEI-15B).
Develop an action plan to address the elements identified as missing or deficient during the SSP Gap analysis (SEI-15C).
Sharing of best practices to support SSP implementation with other States and other organizations, as appropriate (SEI-15D).
Develop a process to provide training on SSP to relevant staff, in collaboration with other States and organisations (e.g. initial, recurrent and advanced) (SEI-15E).



Establish and implement a process for sharing technical guidance, tools and safety critical information related to SSP (e.g. advisory circulars, staff instructions, safety performance indicators), in collaboration with other States, RASG, ICAO and/or other stakeholders (SEI-15F).

### **SSP SEI-4. Strategic Collaboration with key stakeholders to complete SSP implementation (GASP, SEI-16) – Action items.**

Work with collaborators (identified in SEI – 15) to execute the action plan for implementations (SEI-16A).

Obtain resources from national and appropriate authorities' leadership and stakeholders within the State to support SSP implementation (SEI-16B)

Establish a system for the continuous improvement of the SSP, in collaboration with all relevant stakeholders (SEI-16C).



## Kuwait Aviation Safety Plan (2020-2022)

### 5. Establishment of safety risk management at the national level (phase 1) (GASP, SEI-17) – Action items.

Establish a legal framework related to the protection of safety data, safety information and other related sources (SEI-17A).

Establish a State mandatory occurrence reporting system (SEI-17B).

Develop a safety database for monitoring system safety issues and hazards, in line with the principles of Doc 9859 (SEI-17C).

Establish and maintain a process to identify hazards from collected safety data (SEI-17D)

Establish and utilize a process to ensure the assessment of safety risks associated with identified hazards (SEI-17E)

Establish a State confidential voluntary safety reporting system providing data to the safety database (SEI-17F).

### SSP SEI -6. Establishment of safety risk management at the national level (phase 2 (GASP, SEI-18) – Action items.

Develop safety performance indicators using the established safety risk management process by 2023 (SEI-18A)

Develop safety performance measurement methodologies, aligned with the regional safety metrics, using the established safety risk management process by 2023 (SEI-18B).

Establish the acceptable level of safety performance to be achieved through the SSP by 2023 (SEI-18C).



Promote safety awareness and two-way communication, sharing and exchange of safety-relevant information within aviation organizations of Kuwait and encourage sharing of safety information with industry within Kuwait. (SEI-18F).

Contribute information on safety risks and SSP safety performance indicators to the RASG.

### **7. Acquisition of resources to increase the proactive use of risk modelling capabilities (GASP, SEI-19) – Action items.**

Identify resources needed to support safety intelligence collection and processing, advanced data analysis, risk modelling and information sharing capabilities by 2023 (SEI, 19A).

Attract, recruit, train and retain qualified technical personnel to specialize in risk modelling (SEI-19B).

Ensure that Civil Aviation Safety Inspector workforce is trained to perform safety oversight of service providers that have implemented SMS (SEI-19C).

### **SSP SEI-8 - Strategic collaboration with key aviation stakeholders to support the proactive use of risk modelling capabilities (GASP, SEI-20) – Action items.**

Identify areas where collaboration/support is needed to ensure that stakeholders understand and implement safety culture concepts to fully embrace an open, just culture and non-punitive safety reporting (SEI- 20A).

Establish a process via RASG (or other regional bodies) for a mentoring system, including providing assistance to States/industry, as well as the sharing of best practices to support safety culture development and the proactive use of risk modelling (SEI-20B).



Foster and participate in public-private partnerships similar to the commercial or general aviation safety team concept to identify and implement system safety enhancements (SEI-20C).

Collaborate with national and industry stakeholders to establish a mechanism for regular sharing and exchange of safety information, analyses, safety risk discoveries/lessons learned and best practices with a confidential and non-punitive environment (SEI-20D).

## 9. Advancement of safety risk management at the national level (GASP, SEI-21) – Action items.

Establish data sharing connectivity and integration among Kuwait aviation safety database, including the mandatory occurrences reporting system, voluntary safety reporting system, safety audit reports and aviation system statistics (traffic counts, weather information, EI scores, etc) (SEI- 21A).

Develop risk modelling capabilities to support monitoring system safety issues and accident/incident prevention (SEI-21B).

Encourage information sharing with industry (SEI-21C).



# Kuwait Aviation Safety Plan (2020-2022)

## Operational Safety Risk and Initiatives

In reviewing the GASP for compliance and the operating environment in Kuwait, the operational safety risks adopted by Kuwait and in line with the GASP, have been identified as Controlled Flight into Terrain (CFIT), Loss of Control in Flight (LOC-I), Mid Air Collision (MAC), Runway Incursion (RI) and Runway Excursion (RE). The Safety Enhancement Initiatives to be adopted for the purpose of addressing these operational risks are as follows:

### 4.1 Controlled Flight into Terrain (CFIT)

Kuwait to implement the following actions to mitigate contributing factors to the risk of CFIT accidents and incidents (GASP, SEI):

Action	Contents
a.	Issue Safety Bulletins (SB) to increase adherence to TAWS / GPWS warning procedures.
b.	Ensure that ATC surveillance system is improved for the provision of Minimum Safety Altitude Warning (MSAW) system by 2022.
c.	Ensure that the timelines of updates and accuracy of Electronic Terrain and Obstacle Data (ETOD) by 2022
d.	Promote the use of GPS-derived position data to feed TAWS

### 4.2 Loss of Control-In Flight (LOC-I)

Kuwait to implement the following actions to mitigate contributing factors to the risk of LOC-I accidents and incidents (GASP, SEI):



Action	Contents
a.	Ensure the continuation of upset prevention and recovery training in all full flight simulator type conversion and recurrent training programmes.
b.	Ensure that ATC surveillance system is improved for the provision of Minimum Safety Altitude Warning (MSAW) system by 2023.
c.	Ensure the continuation that the pilot trainings extensively incorporate human factors such as distraction, complacency, situational awareness etc.
d.	Evaluate the existing SOPs to ensure effective flight management during adverse weather and recovery of unusual aircraft attitudes by 2023.



### 4.3 Mid Air Collision (MAC)

Kuwait to implement the following actions to mitigate contributing factors to the risk of MAC accidents and incidents (GASP, SEI):

Action	Contents
a	Establish guidance and regulations to ensure all type of aircraft operating within Kuwait airspace are equipped with airborne collision avoidance system (ACAS / TCAS), in accordance with Annex 6 by 2023.
b	Mandate the airline operators to adhere to ACAS / TCAS warning.
c	Promote the improvement of air traffic control (ATC) systems, procedures and tools to enhance traffic conflict management.
d	Ensure that the ATC system is properly equipped of and is in effective implementation of short-term conflict alert (STCA) by 2023.



### 4.4 Runway Incursion (RI)

Kuwait to implement the following actions to mitigate contributing factors to the risk of RI accidents and incidents (GASP, SEI):

Action	Contents
a	Ensure the continuation of establishment and implementation of Kuwait Runway Safety Programme (KRSP) and Runway Safety Team (RST).
b	Develop policy, procedures and trainings that support situational awareness for controllers, pilots, airside-vehicle drivers and other airport users by 2023.
c	Ensure effective use of suitable technologies to assist the improvement of situation awareness, such as improved resolution airport moving maps (AMM), electronic flight bags (EFBs), enhanced vision systems (EVS) and head-up displays (HUD), advanced surface movement guidance and control systems (A-SMGCS), stop bars and runway incursion warning systems (ARIWS) by 2023.
d	Certify aerodromes to be in full compliance with ICAO Annex 14, Vol. I as well as Doc 9981, PANS-Aerodrome by 2023.
e	Ensure the identification and publication in the aeronautical information publication (AIP) of hot spots at aerodromes.
f	Conduct the risk assessment of identified hot spots of aerodrome and develop and execute suitable strategies to remove hazards or mitigate risks associated with those hot spots by 2023.

### 4.5 Runway Excursion (RE)

Kuwait to implement the following actions to mitigate contributing factors to the risk of RE accidents and incidents (GASP, SEI):

Action	Contents
a	Certify aerodromes to be in full compliance with ICAO Annex 14, Vol I, Doc 9981 and PANS- Aerodrome by 2022.
b	Promote the establishment of policy and training on rejected landings, go-around, crosswind and tailwind landings (up to the maximum manufacturers' demonstrated winds).
c	Encourage usage of runway overrun awareness and alerting systems on aircraft by 2022.
d	Ensure effective and timely reporting of meteorological and aerodrome conditions (e.g. runway surface condition in accordance to the ICAO global reporting format in Annex 14 Vol I, braking action and revised declared distances) by 2022.
e	Ensure the installation of arresting systems if runway end safety area (RESA) requirements cannot be met by 2022.
f	Ensure that procedures for the systematic reduction of the rate of unstabilized approaches to runways are developed and implemented by 2022.



## Other Safety Issues

### **5.1 Lack of distinct separation between Regulatory and Service providers.**

Directorate General of Civil Aviation Kuwait (DGCA) is performing the job of both the regulator and the service provider of Aerodrome operations and Air Navigation Services which is hindering the effective safety oversight of those service providers.

Identified action to resolve the safety issue is as follows:

Establish and maintain an independent regulatory oversight authority, which includes separation of oversight functions from service providers function by 2022. (SEI-2A).

### **5.2 Problem on SMS implementation by Aerodrome Operators and ANS Providers are as follows:**

- Due to lack of clarity in organization structure to identify the Accountable Manager, ATS and Aerodrome operation are not starting the SMS implementation effectively.
- Due to lack of reporting culture, the level of safety reporting (Mandatory and Voluntary) is weak within all service providers.

#### Identified Actions:

- a. Revise the organization structure so that identification of Accountable Executive (in accordance with SMM) for the implementation of SMS in ATS and Aerodrome Operation could be executed.



- b. Encourage safety reporting through safety awareness activities and ensure just culture within the organization and DGCA.



## Safety Performance Measurement

Kuwait shall develop the following mechanisms for safety performance measurement of KASP by ensuring the implementation of SEIs and achieving the targets and goals set in the KASP. The actions to be taken as the safety performance measurement are as follows:

Action	Contents
a.	Kuwait shall review the KASP every three years or earlier, as required, to keep the identified safety issues and adopted SEIs updated and relevant.
b.	Kuwait Aviation Safety Team (KAST) and High-Level Safety Coordination Committee (HLSCC) shall periodically review the safety performance of the KASP to ensure the achievement of targets and goals through effective implementation of the identified SEIs.
c.	Safety Management Office shall carry out periodic internal inspection and audit to ensure the implementation of SEIs for strengthening the safety deficient areas and CEs of Kuwait safety oversight capability.
d.	Kuwait shall seek the support of RASG to ensure the implementation of SEIs to strengthen the safety deficient areas of State safety oversight capability, if required.
e.	The Aviation Safety Department (ASD) shall conduct the periodic inspection and safety audit of airline operators to ensure the implementation of all SEIs to resolve the operational safety risks associated to the flight operations
f.	The Air Navigation Services division of ASD shall conduct the periodic inspection and audit to ensure the implementation of SEIs to resolve the operational risks associated to the ANS.



g.

The Aerodrome Certification Division of ASD shall conduct the periodic inspection and audit to ensure the implementation of SEIs to resolve the operational risks associated to the Aerodrome operations.



## Appendix to the KASP

### DETAILED SEIS: NATIONAL OPERATIONAL SAFETY RISKS

HRC x: [name of HRC e.g. Loss of control in-flight (LOC-I)]							
Goal x: [name e.g. Goal 1: Achieve a continuous reduction of operational safety risks]							
Target x.x: [description e.g. Target 1.1: Maintain a decreasing trend of the national accident rate]							
Safety enhancement initiative	Action	Timeline	Responsible entity	Stakeholders	Metrics/Indicators	Priority	Monitoring Activity
[name of SEI and GASP SEI number, as well as RASP SEI number, if applicable]	[describe action(s)]	[insert time frame for completion]	[name]	[list stakeholders]	[list metrics/indicators]	[Low/Medium/High]	[list mechanisms for verifying SEI implementation]
SEI-n [describe] (GASP, SEI-x) (RASP, SEI-x)							
e.g. GASP OPS SEI on LOC-I (State) — Mitigate contributing factors to LOC-I accidents and incidents	Require upset prevention and recovery training in all full flight simulator type conversion and recurrent training programmes	Q1 2020 to Q4 2022	CAA	<ul style="list-style-type: none"> <li>Operators</li> <li>Approved training organizations (ATO)</li> <li>Flight simulator product and service providers</li> <li>Pilots' associations</li> <li>CAA inspectors</li> </ul>	<ul style="list-style-type: none"> <li>Training programmes updated with upset prevention and recovery</li> <li>Number/percentage of pilots completing upset prevention and recovery training</li> <li>Upset occurrence rates in voluntary reporting</li> <li>Stick-shaker activation events in FDA data</li> <li>LOC-I occurrence rates</li> </ul>	High	Surveillance of operator and ATO training activities

**END**